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Rural Schools and Academic Achievement

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RURAL SCHOOLS & ACADEMIC ACHIEVEMENT

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Abstract

This thesis seeks to answer the question: What is the impact of mandated testing on rural schools and how well do students perform? Standards-based education reform movement is the term used to define a period of education reform that began during the 1980s. It has been driven by the creation of academic standards for what students should know and be able to do. Currently No Child Left Behind requires every state is to set standards for grade-level achievement. Students are required to make adequate yearly progress which is measured in testing. Examining rural Appalachian Kentucky was completed by gathered the scores for elementary students using the Commonwealth Accountability Testing System. Scores were very diverse, spanning out over a large range. This remained true when the districts were classified by economics as well. The largest gap existed among Knott County with a score 65.7 to Johnson with 102.2, a difference of 36.5 points. There are no adherent differences among Johnson and Knott County schools. The students in the area have live in the same area, and have the same economic standing. The racial demographics are even similar. Since no obvious differences exist, research was gathered to suggest other areas that influence enhanced performance on academic achievement. It is possible that parental involvement, teacher quality, and access to professional development could influence to the gap found among academic achievement scores. These very areas that promote student achievement are also areas of concern and struggle for rural school districts. This is largely influenced by a unique trait that characterizes rural communities, that is the sparseness and considerable distance between locations. Additional research is required to uncover more specific information relevant to Johnson and Knott school districts.

Rural Schools & Academic Achievement

Introduction

In March of 2007 I traveled with a group of fellow students to Johnson, Kentucky. For one week I participated in Workfest, a program that works to improve the homes of Appalachian residents. The program also introduced me to the harsh reality of poverty in the Appalachian region.

This was my first time being in rural community. Reflecting on the experience I produced a variety of questions concerning how the rural surroundings impacted the residents' daily lives. I was particularly interested the realm of education. This thesis seeks to answer the question: How does rurality impact test scores?

Accountability Movement

Nationwide mandated testing is a fairly recent phenomenon. 'A Nation at Risk' is the title of a 1983 report created by the National Commission on Excellence in Education. This commission was issued by Terrell Bell, the Secretary of Education. The report shocked the nation with its disparaging analysis. "It painted a dire portrait of the country's public schools and highlighted how far American students lagged behind their foreign counterparts on academic achievement tests" (McGuinn 2006).

Standards-based education reform movement is the term used to define a period of education reform that began during the 1980s. It has been driven by the creation of academic standards for what students should know and be able to do. Of the recommendations for reform, perhaps the most notable is the suggestions that schools

recommendations for reform, perhaps the most notable is the suggestions that schools “adopt more rigorous and measurable standards, and higher expectations, for academic performance and student conduct” (The National Commission on Excellence in Education, 1983). Because of this statement ‘A Nation at Risk’ can be considered the catalyst, which created the focus on education reform and standards for achievement.

Other reports and books released at the time helped fuel media attention for the issue. Titles included: ‘Making the Grade’, ‘Closing of the American Mind’, and ‘Cultural Literacy’. As Howe (1984) commented, “It is doubtful that American Education has ever before received such a concentrated barrage of criticism and free advice as it has in 1983.” However some researchers, including Kingston (1986), felt these collections of reports did not discover a shocking new crisis, but rather they spoke merely of existing knowledge that school achievement was poor and standards needed to be established. Nonetheless the combination of resources, books, and other literature brought the issue of education to the forefront of the public agenda. According to Haskins and Loeb, since the publication of ‘A Nation at Risk’ the nation has been through several waves of education reform responding to chronic issues in education (2007).

The first President George H. W. Bush began to push for federal education reform. “Bush embraced a federal role in education reform and helped to legitimize the idea that the country’s historically decentralized public schools needed national leadership to help them improve” (McGuinn, 2006). Historically the control of education had been left to the state and local governments however viewing the poor performance of students had begun to be seen as a national problem requiring federal attention.

Bush proposed 'America 2000.' According to Tucker (1992), this legislation contained four major themes: having more accountable schools, offering alternative education programs, promoting families and communities to help encourage students to learn by instilling respect for education, and finally encouraging parent and community involvement in education reform. Even though 'America 2000' did not pass, the reform movement continued.

President Bill Clinton also pushed for quality education with the passage of a major school reform bill, 'Goals 2000.' The purpose of 'Goals 2000' was "to promote coherent and coordinated improvements in the system of education throughout the nation at the state and local levels" (The Department of Education, 1994). Some of these goals included: that all students would start school ready to learn, high school graduation rates would increase, and all students will leave grades 4, 8, and 12 having demonstrated competency over challenging subject matter. It was signed into law in 1994 and worked to award grants to those states participating in developing and implementing their own standard based education reforms. However, lingering opposition and reservations about testing resulted in the bill not actually requiring mandatory reforms.

No Child Left Behind

'No Child Left Behind' or NCLB would change all that. According to The Department of Education (2004) NCLB is based on stronger accountability for results, more freedom for states and communities, proven education methods, and more choices for parents. Every state is required to set standards for grade-level achievement. Students

are required to make adequate yearly progress. School district report cards are also issued to inform parents about the school's progress. "By the time No Child Left Behind was debated in Congress, standards based reform had been around at the national level for 7-8 years and at the state level for well over a decade. It really wasn't controversial anymore for the federal government to be asking states to set standards and assess children" (McGuinn 2006). On Jan. 8, 2002 President Bush signed the 'No Child Left Behind Act.'

While in 1994, 'Goals 2000' encouraged states to create standards, testing, and accountability systems 'No Child Left Behind' requires it (McGuinn 2006). As stated by Barton, (2006) 'No Child Left Behind' requires states to impose sanctions on schools whose students do not reach designated cut points for 'proficient' performance on schedule. This is measured through test scores. If a school does not meet standards for two consecutive years parents have the option of sending their child to another, better performing public school in their district. If the school fails to make progress in three years the school must provide supplementary services for students such as tutoring or after school services. According to the U.S. Department of Education, (2007) these schools would be subject to improvement, corrective action, and restructuring measures aimed at getting them back on course to meet state standards. These changes are based on the belief that with high standards for performance all students can and will succeed. "The hope is that these strict accountability measures will spur across-the-board gains in achievement" (Education Week 2007).

Although these changes are laudable there has been some difficulty in measuring achievement. For example there is no national definition of proficiency. "Because the federal law gives the states the power to define proficiency, there are 50 different

definitions of the term” (Hoff, 2007). This complies with the long-standing tradition of having the states, rather than the federal government, decide what should be taught to students. According to Hoff, NCLB gives states the authority to set their own subject-matter standards and to define what it means for students to demonstrate they are proficient, using assessments linked to those standards (2007). This can result in contrasting views on progress and the definition of proficient ranges greatly by region.

Darling-Hammond reports that, “In 2002 civil rights advocates praised NCLB for its emphasis on improving education for students of color, those living in poverty, new English learners, and student with disabilities (2007).” The term achievement gap refers to a disparity in performance among different groups of students. Groups may be defined by race, ethnicity, gender, and/or socioeconomic status. The gap appears on a variety of different educational measures including: grades, standardized test scores, drop out rates, and college completion rates. (Education Week, 2007) “The American educational Research Association has noted, the problem we face is less than ‘achievement gap’ than an educational debt that has accumulated over centuries of denied access to education and employment, reinforced by deepening poverty and resource inequalities in schools” (Darling-Hammond, 2007).

However, it is not through mandated testing and assessment that ‘No Child Left Behind’ is aimed at improving education and closing the achievement gap. These tools are used rather to simply measure the gap, and track performance among groups of students. “The adequate yearly progress (AYP) requirements of NCLB are designed to expose achievement gaps between groups of students, ostensibly so that schools will make greater efforts to close the gaps over time” (Anderson, Medrich, & Fowler, 2007).

One of the greatest benefits of identifying schools that are successfully closing the achievement gap is that it allows other school districts to identify the reform measures the successful schools have taken in order to apply them in their own schools.

Over the past five years, scores on state tests have increased consistently, although according to Hoff, there is some evidence that gains started in the 1990s have simply accelerated since the law's enactment (2007). Since most states had already begun to take steps to raise academic performance the results could not be attributed solely to 'No Child Left Behind.'

"The National Assessment of Educational Progress (NAEP) is the only nationally representative and continuing assessment of what America's students know and can do in various subject areas" (National Center for Educational Statistics, 2007). It is also referred to as the Nation's Report Card. This is because the NAEP is the only assessment that can be used to compare data among different states. The NAEP has been used for over 30 years and is sponsored by the US Department of Education. In the past NAEP has been used to study a multitude of subject areas including: mathematics, reading, writing and science. Since 2003, national and state NAEP assessments have been conducted at least once every 2 years for grades 4 and 8 in the areas of mathematics and reading (National Center for Education Statistics, 2007).

According to 4th grade NAEP math scores nationwide, "average scores for White, Black, Hispanic, and Asian/Pacific Islander students were higher in 2007 than in all previous assessments" (The Nation's Report Card, 2007). This positive news from The Nations Report Card fails to recognize that despite the overall improvement gaps still

exist. Just as with mathematics, average scores for reading were higher in 2007 as well. “Overall these gains in math and reading were not always accompanied by significant closing of racial/ethnic and gender gaps” (Donahu, Grigg, & Lee, 2007). For more facts and figures see Appendices A and B.

Gaps exist based on regions as well. “Students living in rural areas of the United States achieve at lower levels and drop out of high school at rates than do their non rural counterparts” (Crowley Roscigno, 2001). Data from the National Center for Educational Statistics indicates that in 2005 a larger percentage of rural public school students scored at the ‘proficient level on NAEP reading, mathematics, and science. Their performance was surpassed urban students in the same grade levels (2007). However, suburban public school students still scored better than their rural counterparts. Although these rural students are performing better than those in urban areas, they still have not been able to catch up and close the gap between their suburban counterparts. Low achievement in rural areas can be seen across a variety of different measurements. These measures include SAT or ACT in addition to standardized math and reading assessments such as the National Assessment of Educational Progress. According to Roscigno & Crowley, their achievement is lower across the board and has been this way for almost 30 years with little change (2001).

NCLB is in the process of being reauthorized and providing Congress with the opportunity to make revisions to the law. This possibility to make changes has sparked much debate and dialogues about improvements. Some concerns relate specifically to rural area’s ability to comply with NCLB. Tonn reports that members of a National

Rural Education Advocacy Coalition agree that NCLB's one-size-fits-all strategy does not accommodate for the unique needs and challenges found specifically in rural schools. (2007) For example, rural isolation makes it challenging to comply with NCLB's consequences for failing schools. Having public school choice is not a practical option when schools are sparse and spread around a remote area. Another challenge for state compliance regard AYP. "Small populations in rural communities and states also make for small student-testing pools, which can make it hard to judge with certainty whether or not schools are meeting achievement targets, or adequate yearly progress." (Tonn, 2007) The National Rural Education Advocacy Coalition has composed a list legislative priorities for 2007. Tonn states that the changes rural areas would like to see in the NCLB law include and are not limited to: modifying the AYP requirements to reflect the needs of small schools and districts; reducing the minimum number of students required for subgroup reporting; adjusting the current formula to allocate Title I money, which tends to target concentrations of low-income families, rather than percentages of poverty in districts (2007).

Case Study– Rural Districts

With all these legislative measures in place, why do some rural districts do well while others falter? Two school districts in rural Kentucky illustrate this dilemma. The schools are located in close proximity, have the same economic designation and yet for some yet elusive reason, the elementary schools in these districts have jarringly different achievement scores.

Kentucky's recent education history mirrors the nation-wide focus on standards and accountability and shed particular light on education in rural areas. After a lawsuit, which challenged the equality and adequacy of education funds in the 1980s the court ruled that the current system of education in Kentucky was inefficient and the school finance system was discriminatory. Qaisar (2003) notes in his study on education reform in Kentucky that the Kentucky Supreme court issued an opinion stating the current system of education was unconstitutional at the time the decision was appealed. This spurred large scale reform and the restructuring of the entire public education system. A task force was created to address this issue and their recommendations would eventually be approved as legislation.

On April 11, 1990 Kentucky established its accountability program, with KERA as the centerpiece. KERA, Kentucky Educational Reform Act, requires schools to show improvement towards performance-based assessments. "The assessment is linked to KERA goals and academic expectations and is a performance-based test that consists of open-response questions, performance events, and portfolios"(Kannapel, 1996). Kentucky Instructional Retrieval Information System, the assessment system otherwise known as KIRIS, was administered for the first time during the 1991-1992 school year. However KIRIS faced much criticism and was eventually replaced with the Commonwealth Accountability Testing System or CATS which is still used in the state today. Like KIRIS, "this system consists of paper and pencil tests in the curricular areas and writing portfolios" (Qaisar, 2003).

Each state administers a test measuring accountability. These tests are designed to examine the student's comprehension and understanding of the state's curriculums.

The CATS test is designed with the Kentucky Learner's Goals and Academic Expectations as the benchmark for student achievement. Another state would use their grade level expectations as the standard for adequate comprehension of state curriculum. Therefore when comparing school districts success it is vital that both districts reside in the same state because the students need to be given a test designed for the curriculum they are exposed to.

The state of Kentucky is located in the heart of a mountain range, in Central Appalachia. Appalachia is a distinctive region. Because of this unique feature the region defined and has very specific boundaries. Not only do school districts within this region use the same test system and are affected by the same policies but they reside in a distinct geographic area. Additionally many areas including Appalachia's culture, economy, and education system have been heavily studied due to their distinctive traits and unique history.

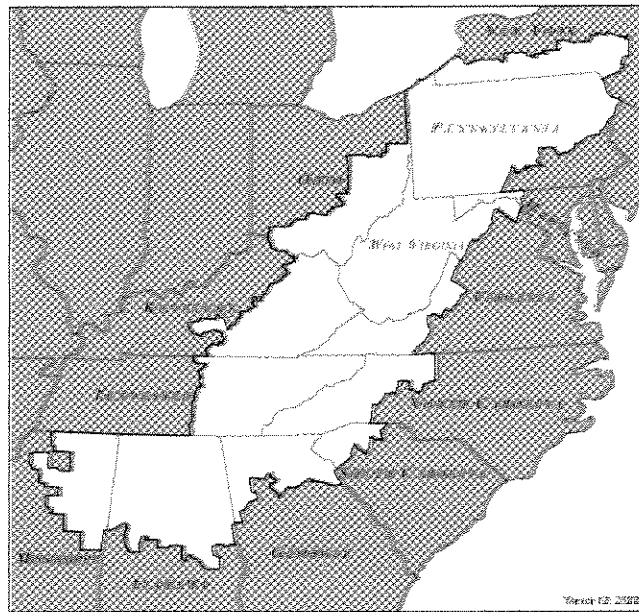


Figure 1 Appalachian Region

Source: Moving Appalachia Forward 2005-2010 (n.d.) retrieved August 2, 2007 from <http://www.arc.gov/images/newsandevents/publications/sp/sp2005-2010.pdf>

The area has a rugged and natural beauty marked by towering mountains and narrow valleys. "Appalachia is a 200,000-square-mile region that follows the spine of the Appalachian Mountains from southern New York to northern Mississippi." (Moving Appalachia Forward n.d.) The mountain range stretches across a grand total of

13 different states. Woodrum (2004) notes that despite its abundant natural resources and prime geographic location, much of Appalachia has existed for generations as a region apart, isolated both physically and culturally.

A subculture is a group of people that have a distinct culture that is distinguished from the larger culture in which they belong. The residents of Appalachia are a part of the mountain subculture divergent from the total culture of the United States. In DeYoung's study (1985) on Appalachian Kentucky, he alludes to the personal, value, and attitude differences found in mountain communities. Appalachian identity arose from isolation and distinct isolation of the area. Historically this unique difference in culture was noted as early as the middle of the nineteenth century with the persistence in the 'pioneer lifestyle' despite cultural evolution in other areas of the nation. Some of these characteristics can include self-reliance, patriotism, neighborliness and many others that have extended across time.

According to DeYoung (1995), many Appalachian counties and communities remain among the isolated and economically depressed. Historically the main form of industry in Appalachia was the harvesting of natural resources such as timber and coal, a low-wage and labor intensive trade. However capitalists from the East and North had control over these markets rather than local citizens. "The region has been arrested by external ownership of resources" (DeYoung, 1985). With resources tapped, unemployment and under-employment is common. "It has not only been a region which has encountered severe economic and social problems in the twentieth century but has attracted a public policy attempts to ameliorate such conditions, but has also become a

battleground in the debate as to whether public policy should 'interfere' with local economies" (Bradshaw, 1985).

There are one hundred seventy five school districts within the entire state of Kentucky, although not all of these districts reside within the Appalachian mountain range. The Appalachian Regional Commission, otherwise known by as ARC, designates the official boundaries of Appalachia. ARC traces its origins back to the early sixties when President John F. Kennedy formed a federal-state committee called the President's Appalachian Regional Commission which was created to "report on the problems of the region and to suggest a way forward in terms of legislation (Bradshaw, 1985)." PARC's report was used to support the Appalachian Regional Development Act, ARDA, which was submitted to congress in 1964 and was signed into law the following year. Title one of this act established ARC, the Appalachian Regional Commission.

This federal agency continues to 'link major federal projects with local needs,' an observation as true today as when Bradshaw (1985) made his initial observation. According to ARC's strategic plan (Moving Appalachia Forward, n.d.), their current goals include increasing job opportunities, making the region economically competitive, as well as build the Appalachian Development Highway System to reduce Appalachia's isolation.

ARC's list of Appalachian counties in Kentucky remains the same as the ones listed when ARDA was created. These identified counties contain seventy one school districts. This number is mainly due to a portion of these counties containing independent districts in addition to the county district. "Kentucky school law allows for more localized control of public education within county government jurisdictions. When

local townships or communities volunteer to sponsor, staff, and tax themselves for independent schools in the state they are so allowed" (DeYoung, 1985). However, this study will disregard any independent school districts. These districts may contain as little as one or two schools making their assessment scores incomparable to the much larger county districts. This leaves fifty one Appalachian school districts within the state of Kentucky.

ARC assigns each of the counties a designated category using their economic

classification system so that the program can target counties in need of the most assistance. It is determined annually based on a comparison of county and national averages. Comparisons are made in three areas: three year unemployment rate, per capita market income, and poverty rate.

There are five economic designations used.

They are distressed, at risk, transitional, competitive, and attainment. Each classification has a threshold that the county must surpass to be classified within that group. (See Appendix C) For instance, distressed counties must "have three-year average unemployment rates at least 1.5 times the national average, per capita market income no greater than

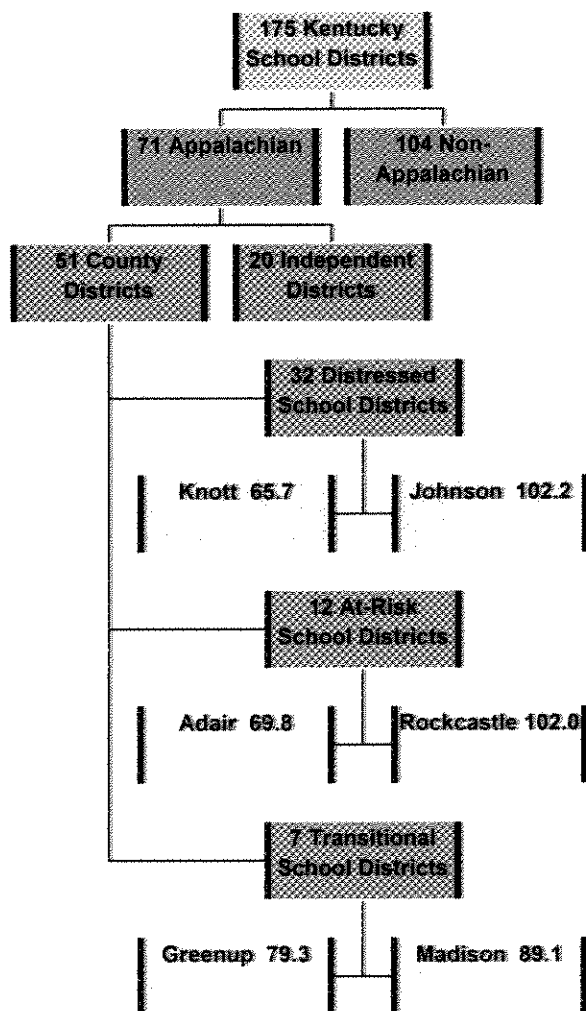


Figure 2: Methodology Breakdown

two-thirds of the national average, and poverty rates at least 1.5 times the national average” (ARC-Designated Distressed Counties, 2007). All the Appalachian counties located in Kentucky were designated as either one of the bottom three tiers: distressed, at risk or transitional. Based on the ARC Designations for the fiscal year of 2006, there are thirty two distressed, twelve at-risk, and six transitional counties. (See Appendix D)

The next challenge in comparing schools districts is finding any discrepancies within each economic designation. Each school district was compared based on their CATs scores. These numerical designations allow for easy comparison of school achievement. (See Appendix E-G) Assessment scores for each district are found within Kentucky Performance Reports or KPR. KPR provides the results of and gives detailed information concerning the state’s assessments which gauge student performance, primarily the CATS testing. Success is measured by using a numeric composite which reflects student performance with reference to state standards, the Kentucky Learner’s Goals and Academic Expectations.

Using the overall academic index scores solely from elementary schools, schools were then compared to other school districts. Academic index is an overall score for all the content areas combined. The scores range on a scale of 0 to 140. The goal is to achieve a score of proficient equal to 100. However, when comparing the three groups of districts there was a wide disparity among scores. (See Appendix E-G)

Within the category of distressed school districts, the largest differential ranged from Knott County with a score 65.7 to Johnson with 102.2, a difference of 36.5 points. The largest difference among at risk schools was almost as great at 32.2 points. However this trend was not as evident in the pool of transitional schools where the largest gap was

only 9.8. Since the distressed school districts contain the largest gap in achievement, Knott and Johnson County are designated as the case studies for this analysis.

Disparity in the realm of education goes beyond the classroom and is a major social justice issue. Education is a public service and hence all students have a right to equal access to a high-quality education. Disparities results in a cultural difference hindering youth and impacting their future. This directly relates to seeking justice in order to serve the community. It is therefore imperative to look beyond simply the scores to search for what research claims as possible factors that positively influence student achievement.

Possible Contributing Factors

There are no adherent differences among Johnson and Knott County schools. The students in the area have live in the same area, and have the same economic standing. The racial demographics are even similar. Based on each district's No Child Left Behind Report the students tested in both Johnson and Knott County are 99% White (Non-Hispanic). Since no obvious differences such as race, income, or locale exists one must turn to research to suggest other areas that influence enhanced performance on academic achievement.

Educators have long sought to understand the dynamics of turning around low-performing schools, but interest in the subject has clearly intensified in the past decade, largely because of state and federal accountability initiatives and the prospect of serious consequences for schools that continue to exhibit low academic achievement" (Duke, 2006). Turning around low-performance scores requires researchers to identify what

factors positively influence students' abilities to learn and perform well on assessments. These factors possibly can be areas in which Knott County struggles with, more than Johnson County. Largely, research has indicated factors that positively influence how schools perform on assessments.

Duke examined 5 prominent published studies related to school turnaround from the year 1999 to 2004 (2006). These studies included:

- Hope for Urban Education: A Study of Nine High-Performing, High-Poverty, Urban Elementary Schools
- Dispelling the Myth: High-Poverty Schools Exceeding Expectations
- Wisconsin's High-Performance High-Poverty Schools
- Driven to Succeed: High-Performing, High-Poverty, Turnaround Middle Schools
- Closing the Achievement Gap
- Lessons from Illinois' Golden Spike High-Poverty High-Performing Schools

By examining the data Duke identified common characteristics these studies associated, in some way, contribute to improving student performance. According to Duke some factors associated with school success include reaching out to parents in order to keep them aware of their children's progress as well as enlist them in supporting school, and providing educators with training and staff development on a continuing basis in order to support and sustain school improvement efforts (2006).

Other research also support's Duke's first identified characteristic, parent involvement. Positive parental involvement has been shown to have many positive advantages for students ranging from earning higher grades, better attendance, to an improved graduation rate. Because of this increasing family involvement has become a high priority for many schools. (Funkhouser, J. & Gonzales, M 1997) Desimone lists various types of parenting behaviors that have been connected with positive achievement outcomes. This extensive list include: authoritative parenting practices, high expectations

and aspirations, parent-teacher communications, participation in school events or activities, parental assistance at home, participation and discussion about learning activities, as well as strong parent social networks (2001). Raising parent involvement is a technique can be used especially to target low-achieving students.

Access to staff development, another of Duke's identified characteristics, is also generally seen as an important aspect to improving the quality of education for students. This is because staff development provides teachers with the opportunity to be exposed to new ideas and concepts. It allows them to question their teaching in order to incorporate new practices that can be beneficial for the classroom. Drago-Severson concludes that "effective professional development for teachers should be: (1) embedded in and derived from practice, (2) ongoing rather than one-shot experiences, (3) on-site and school based, (4) focused on student achievement, (5) integrated with school reform processes, (6) centered around teacher collaboration, and (7) sensitive to teachers' learning needs." (2007)

Offering staff development to improve teaching also introduces the larger issue: overall teacher quality. Researchers have agreed that having good quality teachers in classrooms positively influences student achievement. Haskins and Loeb state that not only do good teachers boost achievement but also "students who have good teachers for consecutive years show cumulative gains in achievement." (2007) Rice agrees declaring that teacher quality matters. "In fact, it is the most important school-related factor influencing student achievement." (2003)

Impact of Rural Surroundings

These very areas that promote student achievement, parent involvement professional development and teacher quality, are also areas of concern and struggle for rural school districts. This is largely influenced by a unique trait that characterizes rural communities, that is the sparseness and considerable distance between locations. "Rural schools frequently are defined by isolation, long distances between places, and their sparse populations" (Malhoit, 2005). The effects of distance on a community are almost all encompassing. According to Malhoit, these effects touch the level of parent involvement, the access to goods and service, and the ability to recruit and retain teachers (2005).

Rural schools are often integral a parts of the towns and therefore actually receive strong community support. Correspondingly it is assumed that rural schools receive more parental involvement than their non-rural counterparts. Cohen-Rosenthal, Franzese, Keith, Keith, and Quirk collaborated to compare the levels of parental involvement and its effects on achievement in rural schools. Cohen-Rosenthal et al. speculated that the levels of involvement found in rural schools do not necessarily translate to the type of involvement that produces high academic outcomes (1996). After conducting their own research Cohen-Rosenthal et al. concluded that "parents of students in rural schools are no more involved in their children's education than are parents in suburban and urban schools, and that rural residence has no influence or change in achievement. (Cohen-Rosenthal et al., 1996) Overall this means that the level of parental involvement was lower than the researchers originally anticipated. However what involvement was received from parents produced improved academic outcomes. Parental involvement produced higher academic outcomes no matter what venue was

being studied. This means that rural schools equally have the same capabilities of improving performance as other regions. Overall their results indicate that improving parental participation is still a critical issue in rural areas because it is equally pertinent for schools no matter where students reside.

The study by Cohen- Rosenthal et. al. suggests that successful programs that have been implemented in other parts of the country could be utilized to increase involvement. Suggestions range from organizing information meetings, to organizing community meetings to discuss educational concerns and local issues (1996). This does not take into account a formidable challenge related to fostering relationships between parents and rural schools. As indicated by Malhoit, ‘the distance between schools and parents’ homes present rural schools with formidable challenges in reaching out to parents and students (2005).”

Rural schools have struggled with providing ongoing professional opportunities for their staff, since Goals 2000 emphasized the importance of educators having access to programs designed to improve professional skills and knowledge. Offering professional development remained a challenge. Himley and Seltzer disclose that “declining rural enrollment and the consequent loss of funds, school closings, taxpayer revolts, and staff reductions have been dominate issues. (1995)” However despite these hindrances, the most common mentioned issue is isolation. According to Himley and Seltzer not only are there few colleges and universities that have courses to prepare rural teachers but there is also a lack of developed networks for social and professional support in place (1995). “Rural educators can not access professional development opportunities located in distant population centers.” (Malhoit, 2005) In more recent years with the

development of technology, rural schools are now beginning to use technology to bridge long distances in order to make professional development more readily available to staff.

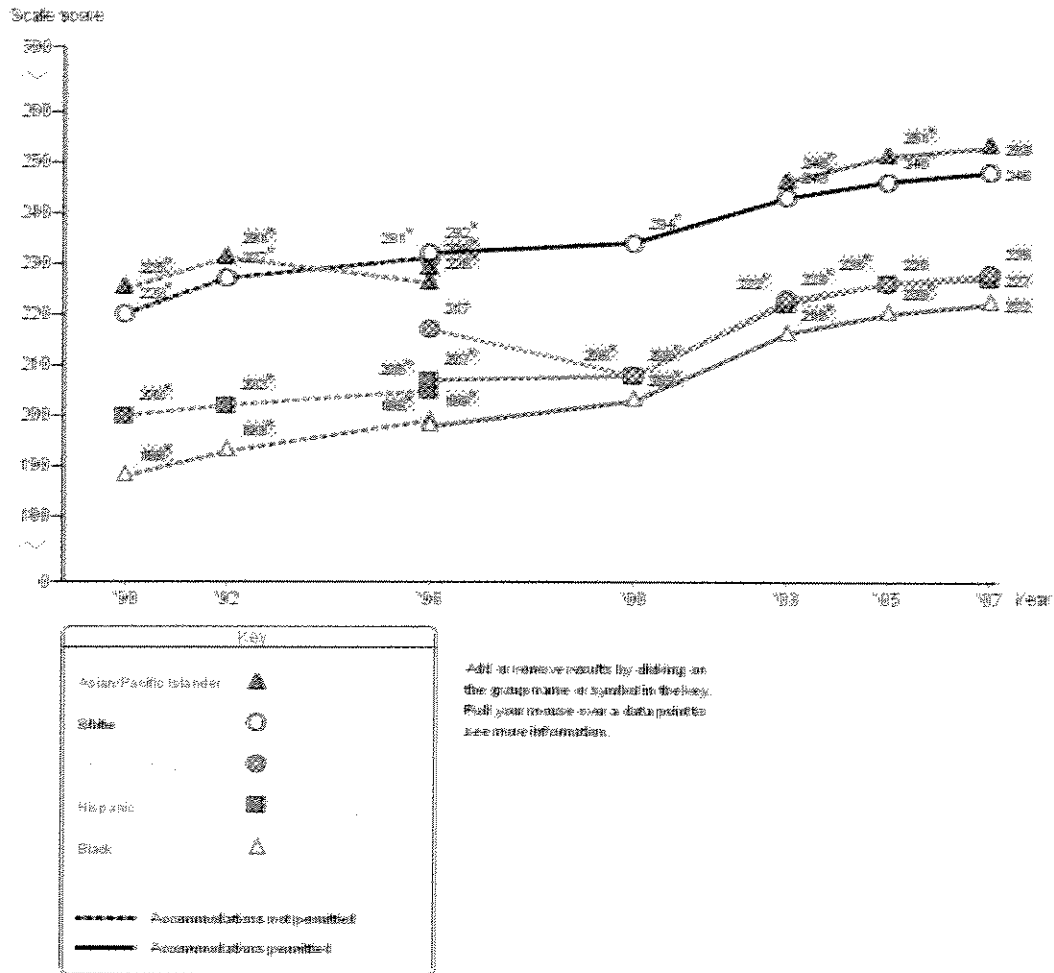
According to the Appalachian Regional Education Laboratory, isolated rural areas are the hardest to staff, especially if the school serves minority or low income students (2003). There are many factors which negatively influence a schools ability to attract highly qualified educators. In particular, salaries are significantly lower in rural areas. Especially in highly rural areas that have a low tax base and little industry (Appalachian Regional Education Laboratory, 2003). The lack of social amenities found in many of rural communities deters many applicants since these are more easily found in suburban and rural areas. Such amenities include: “expanded social life, a nearby university, more housing options, more services within the community and greater opportunity for spousal employment (Appalachian Regional Education Laboratory, 2003). Obtaining quality educators is not the only struggle. There is excessive teacher turnover in rural areas as well. So the issue is not as simple as finding the teachers but retaining them as well.

Conclusion

The disparity among scores in rural Kentucky school districts presents a topic of great complexity. In examining Johnson and Knott School Districts several possibilities were offered in order to explain differences in scores. Based on the fact that certain overlying characteristics hinder all rural schools it is possible that lack of parental involvement, poor teacher quality, and limited access to professional development could contribute to the gap found among academic achievement scores. Additional research is

the gap found among academic achievement scores. Additional research is required to uncover more specific information relevant to Johnson and Knott school districts.

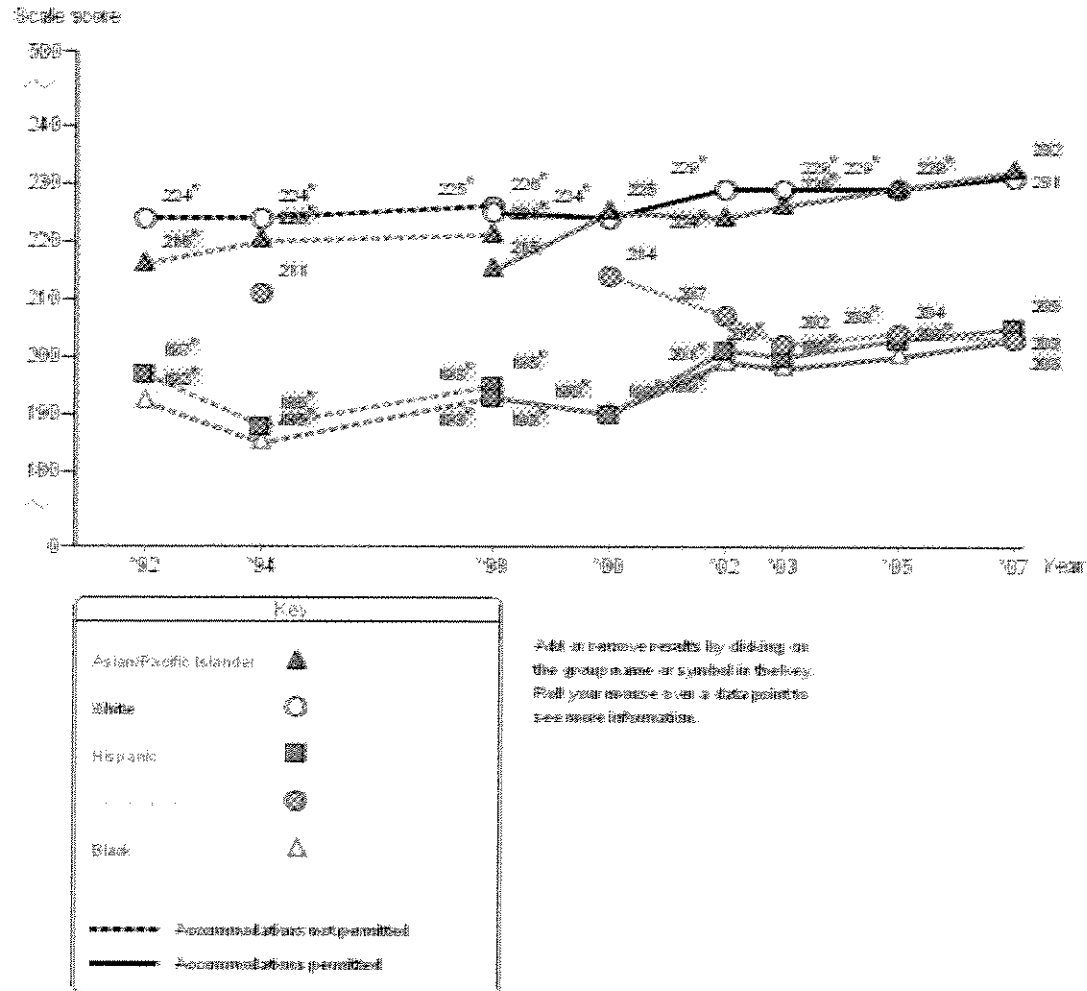
Appendix



Appendix A: Trend in fourth-grade NAEP mathematics average scores, by race/ethnicity

Source:

The Nations Report Card (2007) Trend in fourth-grade NAEP mathematics average scores, by race/ethnicity. Retrieved November 1, 2007 from http://nationsreportcard.gov/math_2007/m0009.asp?subtab_id=Tab_4&tab_id=tab1#chart



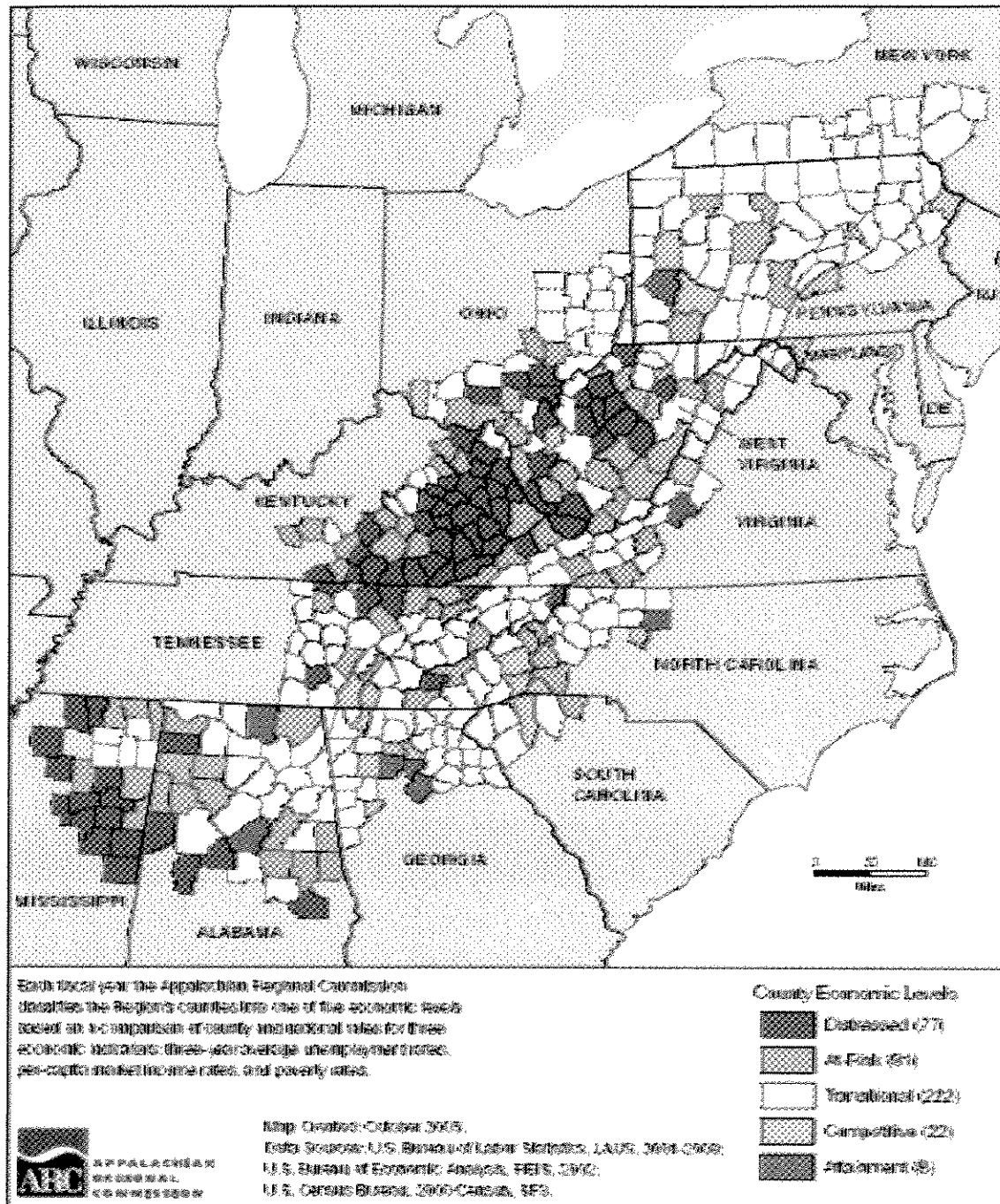
Appendix B: Trend in fourth-grade NAEP reading average scores, by race/ethnicity

Source: The Nations Report Card (2007) Trend in fourth-grade NAEP reading average scores, by race/ethnicity. Retrieved November 1, 2007 from http://nationsreportcard.gov/reading_2007/r0009.asp

County Economic Levels	County Economic Indicator Thresholds			Alternate Criteria
	Three-Year Average Unemployment Rate	Per Capita Market Income	Poverty Rate	
Distressed	150% or more of U.S. average	67% or less of U.S. average	150% or more of U.S. average	<i>At least twice the U.S. poverty rate and meet the threshold of one other distressed-level indicator.</i>
At-Risk	125% or more of U.S. average	67% or less of U.S. average	125% or more of U.S. average	<i>Meet the threshold of two of the three distressed-level indicators.</i>
Transitional	All counties that are worse than the national average for one or more indicator but do not meet the criteria for the distressed or at-risk levels.			
Competitive	100% or less of U.S. average	80% or more of U.S. average	100% or less of U.S. average	
Attainment	100% or less of U.S. average	100% or more of U.S. average	100% or less of U.S. average	

Appendix C: ARC County Economic Status Classification System

Source: Appalachian Regional Commission (2006) Distressed Designation and County Economic Status Classification System Retrieved June 6, 2007 From, http://www.arc.gov/search/method/cty_econ.jsp



Appendix D: County Economic Status in Appalachia, Fiscal Year 2006

Source: Appalachian Regional Commission (2006) County Economic Status in Appalachia, Fiscal Year 2006 Retrieved July 3, 2007 from http://www.arc.gov/static/45301_County%20Economic%Status_FY2006.pdf

Counties	Spring 2006 KY Performance Report Elementary Academic Index
Knott	65.7000
Knox	70.4000
Bell	71.4000
Lawrence	71.6000
Martin	74.1000
Letcher	74.8000
Lewis	76.0000
Leslie	76.2000
Elliott	76.4000
Harlan	76.7000
Breathitt	77.0000
Perry	77.9000
Lee	78.7000
Clinton	78.7000
Owsley	79.1000
Menifee	80.7000
Carter	81.0000
McCreary	81.7000
Monroe	81.8000
Estill	81.9000
Casey	82.5000
Floyd,	83.8000
Whitley	84.3000
Jackson	86.9000
Wayne	87.4000
Morgan	90.3000
Wolfe	91.1000
Powell	91.5000
Magoffin	92.9000
Clay	96.2000
Russell	99.5000
Johnson	102.2000

**Appendix E: Kentucky Performance Report
Scores for Distressed School Districts**

Counties	Spring 2006 KY Performance Report Elementary Academic Index
Adair	69.8000
Hart	75.2000
Bath	75.4000
Fleming	78.6000
Lincoln	78.8000
Edmonson	83.8000
Pulaski	84.0000
Rowan	84.2000
Cumberland	84.6000
Laurel	85.7000
Pike	89.7000
Rockcastle	102.0000

**Appendix F: Kentucky Performance Report Scores for At –
Risk School Districts**

Counties	Spring 2006 KY Performance Report Elementary Academic Index
Greenup	79.3000
Montgomery	79.7000
Clark	81.7000
Boyd	83.8000
Garrard	86.8000
Green	87.2000
Madison	89.1000

**Appendix G: Performance Report Scores for
Transitional School Districts**

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